

## **Innovative photovoltaic charging stations against poverty in El Salvador (ENFOCA) - Estaciones de carga a energía fotovoltaica contra la pobreza en El Salvador**

*ENFOCA is one of 25 projects to win funding through the 2009 IDEAS Energy Innovation Contest for Latin American and the Caribbean. It is based on the idea of the SOLAR TUKI project from ECCA in Nepal. It will advance and adapt the product of Nepal for the social needs of the society of El Salvador and Central America.*

### **Project Description:**

The project will offer small and mobile photovoltaic charging stations mainly for rural households without electrical connection in El Salvador. The stations will be sold at a reasonable price and are able to charge a LED-Lamp (the lamp is included in the product) and a mobile phone as well as to run a radio or small-televisor. Additionally a possibility of charging batteries AA (to use in torches) will be integrated into the housing of the LED-lamp.

The innovation of the project is not only the integration of a plug-in for radio or small televisions and the possibility of charging batteries AA at the photovoltaic charging station, but the fact that the fabrication of the stations will be realized with the help of staff from marginalized groups - such as homeless, handicapped and other people in need. In this way the value creation of the production is not only based in El Salvador, but marginalised groups, which otherwise do not have a chance in this society, will benefit from this idea sustainably.

Furthermore the project is simultaneously addressing four Millennium Development Goals (Poverty, Education, Health and Environmental Sustainability) with one single product. It combines access to energy and therewith light (LED-lamp), communication (charging mobile phones) and information (connection of radio/ small-TV) with the economical relief of the households that use the photovoltaic-charging-station. Additionally local households can not only save their running expenses (no more kerosene, batteries) but expand their small business activities, and thus increase their income. School students can benefit by learning at night and beneath the mosquito net - that brings, together with the abandoned kerosene smokes, additional learning and health effects. Another plus of the project is the promotion of renewable energies in the region and the reduction of green house gases by the replacement of kerosene and disposable batteries.

So far, small-scale photovoltaic plants or charging station do not exist in Central America and hence in El Salvador. Bigger, community-based photovoltaic plants, that are also not very abundant in the region, generally require more financial commitment of the villagers. These financial restraints together with the problematic "sharing of community property", already led to the termination of many projects in the initial phase.

A small-scale, household-based and inexpensive energy solution is therefore a very promising approach to overcome the scepticism of rural households' vis-à-vis this technology. The local production of the PV-charging-stations – from homeless, handicapped or other people in need – will additionally help to overcome the scepticism of the potential clients that would probably arise if the product would be entirely imported (if it would exist in this way) and thus be more expensive and less reliable regarding issues of guarantee and liability.

By the “multiple-use” of the PV-charging-station, a wide range of households in El Salvador (and at a later stage Central America) can be addressed. Especially the integration of a possibility to charge mobile phones and to run small televisions/ radios is crucial for the marketing activities - as mobile phones and televisions are status symbols in Central America. In this way more people can be addressed that might be otherwise not interested. Moreover the local and regional cell phone companies can be integrated into the marketing activities as they can also expand their markets.

Last but not least the project creates employment for “people without hope” of the Salvadorian society through the foundation of a “green” micro enterprise that offers energy solutions at a reasonable price to marginalized households in the country.

#### **Project Partners:**

RAMBIENTAL, El Salvador (Main Applicant)  
[www.rambiental.com](http://www.rambiental.com)



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**Technical Support:** ECCA, Nepal

#### **Donors:**

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